

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A process for the preparation of a silicon containing transition metal catalyst compound, said process comprising the steps of

(a) non-hydrolytic sol-gel condensation of a silane of formula



wherein L is a ~~π -bonded~~ σ -bonded ligand,

Q is an anionic ligand, and

$$x + n = 4$$

with ~~[[an]]~~ a halogenated silane ~~[[()]]~~ or a halogenated siloxane~~[[()]]~~ and an alkoxysilane,

(b) optionally alkylation,

(c) deprotonation, and

(d) addition of a transition metal compound.

2. (Previously presented) A process according to claim 1, wherein L is a cyclopentadienyl, indenyl or fluorenyl ligand.

3. (Previously presented) A process according to claim 1, wherein x is 2 and Q is halogen.

4. (Previously presented) A process according to claim 1, wherein the transition metal compound is a Group IV A metal halide.

5. (Previously presented) A process according to claim 4, wherein the Group IV A metal is zirconium.

6. (Currently Amended) A process for the preparation of a silicon containing transition metal catalyst compound, said process comprising the steps of
(a) non-hydrolytic sol-gel condensation of a silane of formula



wherein L is a ~~π -bonded~~ σ -bonded ligand,
Q is an anionic ligand, and
 $x + n = 4$

with ~~[[an]]~~ a halogenated silane ~~[[~~(I)~~]]~~ or a halogenated siloxane~~[[~~(I)~~]]~~ and an alkoxysilane,

(b) alkylation, and

(c) addition of a transition metal amine.

7. (Previously presented) A process according to claim 6, wherein the transition metal amine is $Zr(NMe_2)_4$.

8. (Previously presented) A polymerisation catalyst system comprising
(a) a silicon containing transition metal catalyst compound prepared according to claim 1, and (b) a cocatalyst.

9. (Previously presented) A process for the polymerisation of olefin monomers selected from (a) ethylene, (b) propylene (c) mixtures of ethylene and propylene and (d) mixtures of (a), (b) or (c) with one or more other alpha-olefins, said

process being performed in the presence of a silicon containing transition metal catalyst compound prepared according to claim 1, and (b) cocatalyst.

10. (Previously presented) A process for the polymerisation of ethylene or the copolymerization of ethylene and α -olefins having from 3 to 10 carbon atoms, said process being carried out in the presence of a (a) a silicon containing transition metal catalyst compound prepared according to claim 1, and (b) a cocatalyst.

11. (Previously presented) A process according to claim 9 or 10, wherein the cocatalyst is an aluminoxane.

12. (Previously presented) A process according to claim 9 or 10, wherein the cocatalyst has the formula:



wherein

L^* is a neutral Lewis base

$(L^*-H)^+_d$ is a Bronsted acid

A^{d-} is a non-coordinating compatible anion having a charge of d^- , and

d is an integer from 1 to 3.

13. (Previously presented) A process according to claim 9 or 10, carried out in the gas phase.